

Ref

OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.
Secretary to the Commission

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OPINION 320

Validation, under the Plenary Powers, of the generic name *Limulus* Müller (O.F.), 1785 (Class Merostomata) and confirmation of the entry of that name on the *Official List of Generic Names in Zoology* (validation of an error in *Opinion* 104)



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INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

COMPOSITION AT THE TIME OF THE ADOPTION OF THE RULING GIVEN IN OPINION 320

A. The Officers of the Commission

Honorary Life President : Dr. Karl Jordan (*British Museum (Natural History), Zoological Museum, Tring, Herts., England*).

President : (Vacant).

Vice-President : Senhor Dr. Afranio do Amaral (*Sao Paulo, Brazil*).

Secretary : Mr. Francis Hemming (*London, England*).

B. The Members of the Commission

(arranged in order of precedence by reference to date of election or of most recent re-election, as prescribed by the International Congress of Zoology).

Senhor Dr. Afranio do AMARAL (*S. Paulo, Brazil*) (*Vice-President*) (1st January 1944).

Professor J. R. DYMOND (*University of Toronto, Toronto, Canada*) (1st January 1944).

Professor J. Chester BRADLEY (*Cornell University, Ithaca, N.Y., U.S.A.*) (28th March 1944).

Professor Harold E. VOKES (*Johns Hopkins University, Baltimore, Maryland, U.S.A.*) (23rd April 1944).

Dr. William Thomas CALMAN (*Coulsdon, Surrey, England*) (1st January 1947).

Professor Béla HANKÓ (*Békéscsaba, Hungary*) (1st January 1947).

Dr. Norman R. STOLL (*Rockefeller Institute for Medical Research, New York, N.Y., U.S.A.*) (1st January 1947).

Professor H. BOSCHMA (*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*) (1st January 1947).

Senor Dr. Angel CABRERA (*Eva Peron, F.C.N.G.R., Argentina*) (27th July 1948).

Mr. Francis HEMMING (*London, England*) (*Secretary*) (27th July 1948).

Dr. Joseph PEARSON (*Tasmanian Museum, Hobart, Tasmania, Australia*) (27th July 1948).

Dr. Henning LEMCHE (*Universitetets Zoologiske Museum, Copenhagen, Denmark*) (27th July 1948).

Professor Teiso ESAKI (*Kyushu University, Fukuoka, Japan*) (17th April 1950).

Professor Pierre BONNET (*Université de Toulouse, France*) (9th June 1950).

Mr. Norman Denbigh RILEY (*British Museum (Natural History), London*) (9th June 1950).

Professor Tadeusz JACZEWSKI (*Department of Systematic Zoology, Warsaw University, Warsaw, Poland*) (15th June 1950).

Professor Robert MERTENS (*Natur-Museum u. Forschungs-Institut Senckenberg, Frankfurt a. M., Germany*) (5th July 1950).

Professor Erich Martin HERING (*Zoologisches Museum der Humboldt-Universität zu Berlin, Germany*) (5th July 1950).

OPINION 320

VALIDATION, UNDER THE PLENARY POWERS, OF THE
GENERIC NAME "LIMULUS" MULLER (O.F.), 1785
(CLASS MEROSTOMATA) AND CONFIRMATION
OF THE ENTRY OF THAT NAME ON THE
"OFFICIAL LIST OF GENERIC NAMES
IN ZOOLOGY" (VALIDATION OF
AN ERROR IN "OPINION" 104)

RULING :—(1) Under the Plenary Powers the generic name *Xiphosura* Brünnich, 1771, is hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy.

(2) In view of (1) above, the entry of the generic name *Limulus* Müller (O.F.), 1785, on the *Official List of Generic Names in Zoology* made under the Ruling given in *Opinion* 104 is hereby confirmed.

(3) The under-mentioned generic names or reputed generic names are hereby placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* as Names Nos. 177 to 181 respectively :—(a) *Xiphosura* Gronovius, 1764 (a name published in a work rejected for nomenclatorial purposes) ; (b) *Xiphosura* Brünnich, 1771, as suppressed, under the Plenary Powers, under (1) above ; (c) *Xiphosura* Scopoli, 1777 (a junior homonym of *Xiphosura* Brünnich, 1771) ; (d) *Xiphosura* Meuschen, 1778 (a name published in a work rejected for nomenclatorial purposes) ; (e) *Xiphisura* Brünnich, 1771 (an Invalid Original Spelling of *Xiphosura* Brünnich, 1771, suppressed, under the Plenary Powers, under (1) above).

(4) The under-mentioned name is hereby placed on the *Official List of Specific Names in Zoology* as Name No. 199 : *polyphemus* Linnaeus, 1758, as published in the combination *Monoculus polyphemus* (specific name of type species of *Limulus* Müller (O.F.), 1785).

I.—THE STATEMENT OF THE CASE

The case dealt with in the present *Opinion* arose independently in two ways. First, the approval of the application submitted by Mr. R. Winckworth for a Ruling that the work by Brünnich entitled *Zoologiae Fundamenta*¹ published in 1771 (not in 1772 as commonly stated)² by the Commission at its Session held in Paris in 1948 rendered *Xiphosura* Brünnich, 1771 (type species, by monotypy: *Monoculus polyphemus* Linnaeus, 1758) an available name and a senior objective synonym of the well-known name *Limulus* Müller (O.F.), 1785. Second, this development called for immediate action by the International Commission, quite irrespective of the question whether, in the interests of nomenclatorial stability, steps ought to be taken to preserve the name *Limulus* Müller, for the latter name had been placed by the Commission on the *Official List of Generic Names in Zoology* in 1928 under the Ruling given in its *Opinion* 104 (1928, *Smithson. misc. Coll.* 73 (No. 5) : 25—28) in the mistaken belief that it was an available and valid name. In the circumstances it was essential that the entry of this name on the *Official List* should be either validated or deleted. This question was brought to the attention of the Commission by the Acting President (Mr. Francis Hemming) at its Session held in Paris in 1948 (Paris Session, 12th Meeting, Conclusion 5) immediately after it had taken a decision in favour of the availability of Brünnich's *Zoologiae Fundamenta*. The following is an extract from the Official Record of the Proceedings of the Commission at the foregoing meeting, giving the decision then taken in this matter (1950, *Bull. zool. Nomencl.* 4 : 312) :—

THE COMMISSION agreed :—

that consideration should be given as soon as possible after the close of the present (Paris) Congress to the

¹ This decision has since been embodied in *Opinion* 236 (1954, *Ops. Decls. int. Comm. zool. Nomencl.* 4 : 329—342).

² For a note on the correct date for Brünnich's *Zoologiae Fundamenta*, see paragraph 4 of *Opinion* 236.

question whether the name *Limulus* Müller, 1785, erroneously placed on the *Official List of Generic Names in Zoology* by *Opinion* 104 should be validated under the Plenary Powers or alternatively be removed from the *Official List*, and that to this end the Secretary to the Commission be asked to prepare a Report on this subject, with recommendations, for the consideration of the Commission.

II.—THE SUBSEQUENT HISTORY OF THE CASE

2. Registration of the present case : As a preliminary to action being taken to initiate the investigation decided upon by the Commission at its Paris Session, the problem presented by the names *Xiphosura* Brünnich and *Limulus* Müller was allotted the Registered Number Z.N.(S.) 506.

3. Preliminary consultations : The Official Record of the Proceedings of the International Commission at its Paris Session was published in 1950 and, as soon as was practicable thereafter, the Secretary entered into consultations in regard to this case with interested specialists. These consultations elicited comments from (1) Professor H. Munro Fox (*London University, Bedford College for Women, Department of Zoology, London*) and (2) Dr. Carl O. Dunbar (*Yale University, Peabody Museum of Natural History, New Haven, Connecticut, U.S.A.*). The communications so received are given in the immediately following paragraphs.

4. View expressed by Professor Munro Fox (London University) : The following is the text of a letter dated 12th March 1951 received from Professor H. Munro Fox (*London University,*

Bedford College for Women, Department of Zoology, London) in regard to the present case :—

The case of “*Limulus*” Müller, 1785

I am strongly of the opinion that the generic name *Limulus* Müller should be validated and confirmed on the *Official List of Generic Names in Zoology*. The contrary course would be most undesirable both because of text-book usage and because of the undesirability of removing a name from the *Official List*.

5. View expressed by Dr. Carl O. Dunbar (Yale University, Peabody Museum of Natural History, New Haven, Connecticut, U.S.A.) : In a letter dated 23rd May 1951, Dr. Carl O. Dunbar (*Yale University, Peabody Museum of Natural History, New Haven, Connecticut, U.S.A.*) submitted the following statement of his views on the present case :—

“*Limulus*” Müller (O.F.), 1785

I think that both the *Official List of Generic Names* and the provision for the use of the Plenary Powers are desirable as a proper means of escape from unnecessary confusion, sometimes produced by rigid application of the rule of priority, against which a good many systematists are inclined to rebel. It would seem to me therefore that the name *Limulus* Müller, having been established by being placed on the *Official List*, cannot be displaced by *Xiphosura* Brünnich unless the Commission saw fit to take the positive action of removing it from the *List*.

As for the merits of the case, I believe no useful purpose would be gained by replacing the name *Limulus* which is so well established in the literature of the world. On the other hand, definite confusion would result from use of the name *Xiphosura* for a genus within the Order Xiphosura.

6. Application submitted by Professor Leif Størmer (Paleontologisk Institutt, Oslo, Norway) : On 30th March 1951 Professor

Leif Størmer (*Paleontologisk Institutt, Oslo, Norway*) addressed a letter to the Commission expressing a wish for a ruling on the relative status of the names *Xiphosura* Brünnich, 1771, and *Limulus* Müller (O.F.), 1785. Since this was precisely the question which in 1948 the Commission had invited Mr. Hemming to investigate, he took the view that the best means of discharging the duty so imposed upon him would be to invite Professor Størmer, as a specialist in the group concerned, to submit, for the consideration of the Commission, a statement of the issues involved, with his recommendations as to the action which it was desirable should be taken. Professor Størmer consented to undertake this task and on 19th May 1951 he submitted the following application :—

Proposed use of the Plenary Powers to validate the entry on the " Official List of Generic Names in Zoology " of the name " Limulus " Müller, 1785 (Class Merostomata*) : proposed correction of an error in " Opinion " 104

By LEIF STØRMER

(*Paleontologisk Institutt, Oslo, Norway*)

1. The object of the present application is to obtain from the International Commission on Zoological Nomenclature the use of its Plenary Powers for the purpose of suppressing the generic name *Xiphosura* Brünnich, 1771, in order thereby to render the name *Limulus* Müller, 1785 (Class Merostomata*) the oldest available name for, and therefore the valid name of, the genus now habitually known by that name. From the point of view of the present applicant, who is engaged in preparing the chapter on Merostomata for the forthcoming International *Treatise on Invertebrate Paleontology*, the present case is one of exceptional urgency, for it is essential that a decision should be provided on the issue now submitted in time for it to be included in the relevant portion of the *Treatise*. It is particularly hoped, therefore, that it will be possible for the International Commission to reach a very early decision on the present application.

2. The facts of this case are as follows : In 1928, in *Opinion* 104 (*Smithson. misc. Coll.* 73 (No. 5) : 25) the International Commission

* Or Class Arachnida.

on Zoological Nomenclature placed on the *Official List of Generic Names in Zoology* the generic name *Limulus* Müller (O.F.), 1785 (type species, by monotypy: *Monoculus polyphemus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1: 634). This extremely well-known name, which was then in universal use—as it still is today—was regarded not only as a nomenclatorially valid name, but also as the oldest available name for the genus in question. In 1940, however, Mr. R. Winckworth submitted a request to the International Commission (*Bull. zool. Nomencl.* 1: 113—117) for a ruling on the question whether in his *Zoologiae Fundamenta* (then believed to have been published in 1772, but now known to have been first published in 1771) Brünnich had applied the principles of binominal nomenclature. Winckworth pointed out that, if the Commission were to give an affirmative answer to the foregoing question, there were a number of generic names which would in future rank for priority as from the *Zool. Fund.* and that one of these names, *Xiphosura* Brünnich (: 208), was older than, and would replace, the well-known name *Limulus* Müller, 1785. At Paris in 1948 the International Commission ruled in favour of the availability of the names in Brünnich's *Zoologiae Fundamenta*, holding the view that in this work Brünnich had duly complied with the requirements of Proviso (b) to Article 25 of the *Règles* (see 1950, *Bull. zool. Nomencl.* 4: 307—310).

3. Having reached this general decision, the International Commission turned to consider the new names in the *Fundamenta* of Brünnich, of which it now became necessary to take account. When the Commission reached the name *Xiphosura* Brünnich, the Acting President (Mr. Francis Hemming) drew attention to the fact that the acceptance of this generic name would be objectionable from two points of view (1950, *loc. cit.* 4: 311—312). First, that name, if accepted, would displace the time-honoured name *Limulus* Müller, which, moreover, had already been on the *Official List* for twenty years; second, the use of this word as a generic name would be confusing, in view of the fact that it was in general use as the name of the Order to which this genus belonged. The Commission did not feel able on that occasion to reach a decision on this question, but agreed that as soon as possible after the close of the Paris Congress consideration should be given to the question whether or not the Plenary Powers should be used for the purpose of validating the generic name *Limulus* Müller and thereby of regularising the position of that name on the *Official List* (1950, *loc. cit.* 4: 312). At the same time the Commission asked the Secretary to confer with specialists and, having done so, to submit a Report to the Commission for consideration.

4. It will be seen, therefore, that the subject of the present application is one to which the Commission has already given preliminary

consideration and on which it has asked for the views of specialists. Thus, the present application, although prompted mainly by a different object, namely a desire to obtain a decision needed for the preparation of the *Treatise on Invertebrate Paleontology*, will serve also to provide a basis for the consideration of the question to which the Commission gave special consideration in Paris, namely whether the position on the *Official List* of the name *Limulus* Müller should be regularised or, alternatively, whether that name should be removed from the *Official List*, the name *Xiphosura* Brünnich being added thereto in its place.

5. As has already been explained, the generic name *Limulus* Müller is in general use for the genus to which it was first applied by Müller, one hundred and sixty-six years ago. It is true that in 1902 (*Ann. Mag. nat. Hist.* (7) 9 : 260) Pocock sought to replace the name *Limulus* Müller by the older name *Xiphosura* Gronovius, 1764 (*Zoophylac. gron.* 2 : 220) but this proposal of his won no support from other workers. Moreover, the *Zoophylacium gronovianum*, as from which Pocock dated the name *Xiphosura* was written by an author (Gronovius) who, though a so-called "binary" author, did not apply the principles of binominal nomenclature.³ At the time that Pocock wrote his paper there was room for argument whether a generic name published by such an author possessed any status in zoological nomenclature and this doubt persisted until 1948 when the International Congress of Zoology made it quite clear that such names possess no status in zoological nomenclature, by deleting the ambiguous expression "nomenclature binaire" from the *Règles*, inserting in its place the perfectly definite expression "nomenclature binominale" (1950, *Bull. zool. Nomencl.* 4 : 63—66). It is now perfectly clear that the alleged generic name *Xiphosura* Gronovius, 1764, possesses no standing in zoological nomenclature. This objection does not however apply to the name *Xiphosura* Brünnich, 1771, which is undoubtedly an available name. In view of the current general acceptance of the generic name *Limulus* Müller and the long period in which it has been in use, the desirability of promoting stability in nomenclature points strongly in favour of the preservation of the name *Limulus* Müller, as against the name *Xiphosura* Brünnich. These considerations are enormously strengthened by the fact that for over twenty years the name *Limulus* Müller has occupied an unchallenged position on the *Official List of Generic Names in Zoology*. The arguments would need to be very strong to justify the dethronement of the name *Limulus* Müller for the benefit of the unknown name *Xiphosura* Brünnich. In actual fact there are no arguments that can be advanced in favour of the overthrow of existing practice in this matter, apart from that based on the

³ The work by Gronovius entitled *Museum gronovianum* has since been formally rejected by the Commission in *Opinion* 261 (1954, *Ops. Decls. int. Comm. zool. Nomencl.* 5 : 281—296).

consideration that Brünnich's name *Xiphosura* was published fourteen years before Müller's name *Limulus*. The Law of Priority possesses many merits, but it is important always to remember that that Law was fashioned to promote stability and uniformity in nomenclature and consequently that the purpose of that Law is defeated if, by an unduly rigid application of its provisions, it is allowed to become an instrument for overturning well-established nomenclatorial practice. There are therefore very strong grounds in favour of the use by the International Commission of its Plenary Powers to preserve the name *Limulus* Müller.

6. This matter is not, however, the sole concern of the student of the taxonomy of the living and fossil forms concerned. For the name *Limulus* Müller is deeply embedded in the literature of the morphology and ontogeny of this interesting group, and to the workers in the field of applied biology changes of well-known names for narrow technical reasons of a purely nomenclatorial character are peculiarly irritating and incomprehensible. Moreover, the International Congress of Zoology has given express directions that the interests of this class of worker are to be given special consideration by the International Commission in considering cases involving the possible displacement of well-known names (*see*, 1950, *Bull. zool. Nomencl.* 4 : 234—235). For this reason also it is highly desirable that the International Commission should use its Plenary Powers to prevent the supersession of the name *Limulus* Müller.

7. Finally, it must be observed that (as was pointed out in the discussion of this case in Paris) we are confronted here also with a reason of quite a different kind which would make it most undesirable that the name *Xiphosura* Brünnich should replace the name *Limulus* Müller. This is because the word (*Xiphosura*) of which Brünnich's name consists or derivatives of that word are commonly used to denote the higher categories to which the genus now known as *Limulus* belongs. Thus, according to the taxonomic view taken of the categories which should be recognised, the word "*Xiphosura*" is in use as the name of the Sub-Class or Order concerned, while the word "*Xiphosurida*" is used as the name of the Order. The Commission has ruled (*in Opinion* 102) that a generic name is not invalidated by the prior use, as an ordinal name, of the word of which that generic name is composed and this provision has since been incorporated in the *Règles*; in deciding so to codify this provision, the International Congress of Zoology decided also to insert a *Recommendation* deprecating the selection, as generic names, of words previously used as the names of units of Sub-Ordinal or higher category (1950, *Bull. zool. Nomencl.* 4 : 164—165). In the present case, the use of the word "*Xiphosura*" as a generic name could not fail to give rise to confusion in the nomenclature of this group, and it is therefore extremely desirable from this

point of view alone that the Commission should use its Plenary Powers to suppress the generic name *Xiphosura* Brünnich, 1771.

8. For the reasons set forth above, I ask the International Commission on Zoological Nomenclature :—

- (1) to use its Plenary Powers to suppress the generic name *Xiphosura* Brünnich, 1771, for the purposes of the Law of Priority, but not for those of the Law of Homonymy ;
- (2) in view of (1) above, to confirm the generic name *Limulus* Müller, 1785, on the *Official List of Generic Names in Zoology*;
- (3) to place the under-mentioned generic names or reputed generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology*:—
 - (a) *Xiphosura* Gronovius, 1764 (an invalid name because published by an author who did not apply the principles of binominal nomenclature) ;
 - (b) *Xiphosura* Brünnich, 1771 (a name proposed, under (1) above, to be suppressed under the Plenary Powers) ;
- (4) to place on the *Official List of Specific Trivial Names in Zoology* the trivial name *polyphemus* Linnaeus, 1758, as published in the binominal combination *Monoculus polyphemus* (trivial name of the type species of *Limulus* Müller, 1785).

7. Publication of the present application : Professor Størmer's application and the earlier comments received from Professor Munro Fox (paragraph 3) and Dr. Carl O. Dunbar (paragraph 4) were sent to the printer on 27th May 1951 and were published on 28th September 1951 in Part 11 of volume 2 of the *Bulletin of Zoological Nomenclature* (Størmer, 1951, *Bull. zool. Nomencl.* 2 : 319—322 ; Fox, 1951, *ibid.* 2 : 322 ; Dunbar, 1951, *ibid.* 2 : 323).

8. Issue of Public Notices : Under the revised arrangements prescribed by the Thirteenth International Congress of Zoology,

Paris, 1948 (1950, *Bull. zool. Nomencl.* **4** : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 28th September 1951 both in Part 11 of volume 2 of the *Bulletin of Zoological Nomenclature* (the Part in which Professor Størmer's application was published) and to the other prescribed serial publications. The publication of these Notices elicited no objection during the prescribed period.

9. Support received for the present application : The publication of Professor Størmer's application and of the Public Notices regarding it elicited support from the following specialists :— (1) Rudolf Richter (*Natur-Museum u. Forschungs-Institut Senckenberg, Senckenberg-Anlage, Frankfurt a. Main, Germany*) ; (2) Joshua L. Baily, Jr. (*San Diego, California, U.S.A.*).

10. Support received from Professor Dr. Rudolf Richter (Natur-Museum und Forschungs-Institut Senckenberg, Senckenberg-Anlage, Frankfurt a. M., Germany) : On 18th October 1951, Professor Dr. Rudolf Richter (*Natur-Museum und Forschungs-Institut Senckenberg, Senckenberg-Anlage, Frankfurt a. M.*) addressed to the Commission the following letter in support of Professor Størmer's application (Richter, 1952, *Bull. zool. Nomencl.* **6** : 221) :—

Begründung :

Der Internationale Zoologen-Kongress hat die Möglichkeit zur Suspension der Regeln mit der ausdrücklichen Absicht geschaffen, Namen von so allgemeiner Gebrauchlichkeit wie *Limulus* zu schützen.

Eine andere Entscheidung würde nicht die Zustimmung der Zoologen und Paläontologen finden.

Ausserdem würde die Autorität der Internationalen Regeln und der Internationalen Kommission nicht befestigt werden, wenn der Name *Limulus*, nachdem er 1928 auf die Offizielle Liste gesetzt worden war, nicht den Schutz der Kommission finden würde.

Ich verweise auf den Antrag (den ich zur gleichen Zeit an die Kommission einreiche), dass sämtliche Namen, die auf die Offizielle

Liste gesetzt worden sind, unter Suspension der Regeln endgültig geschützt werden. (*Bull. zool. Nomencl.* 6 : 184—185.)

11. Support received from Dr. Joshua L. Baily, Jr. (San Diego, California, U.S.A.) : On 24th October 1951, Dr. Joshua L. Baily, Jr. (*San Diego, California, U.S.A.*) addressed a letter to the Commission in which he furnished the following statement in support of the retention of the generic name *Limulus* Müller, 1785 (Baily, 1952, *Bull. zool. Nomencl.* 6 : 221—222) :—

1. Application Z.N.(S.) 506 is concerned with a name (*Limulus*) which has been on the *Official List* for more than two decades. Its reconsideration at this time would therefore weaken the value of the *Official List*, regardless of the nature of the action taken. The *Official List* is the greatest instrument for the stabilization of nomenclature that has yet been devised and any action likely to weaken it is to be deprecated.

2. Attention should here be called to application Z.N.(S.) 544 relating to the name *Astacus*,⁴ which is essentially parallel. In each case a name has long been on the *Official List*; in each case an older name has been subsequently discovered which would have been available if discovered earlier; in each case the petitioner fears the possibility of action which might jeopardize the status of the established name. In the latter case, however, the proponent of the application has not asked for the confirmation of the established name, but merely for the suppression of the older name which threatens it.

3. It would be quite in order for the Commission to issue an *Opinion* to the effect that *Limulus* and *Astacus* are closed cases which cannot be re-opened on any ground, but to reconsider these cases even for the purpose of confirming earlier actions would be objectionable, as such a course would establish a precedent for re-opening any case in which a neglected name unexpectedly comes to light. It is true that I have asked the Commission several times to reconsider cases which they presumably considered closed, but I have never done so in the case of a name already on the *Official List*. Had these names been placed on the *Official List* I would have accepted that decision as irrevocable.

4. Other things being equal, the earlier published of two synonyms is entitled to priority, but in this case other things are not equal. *Limulus* is on the *Official List*; *Xiphosura* is not, and the only way

⁴ The application here referred to has since been granted by the International Commission, and its decision has been embodied in *Opinion* 349 (in the press).

in which parity for the two names can be achieved is for the Commission to place *Xiphosura* on the *Official List* with the same type. To me this action is unthinkable, but in order to preclude it absolutely, I would suggest either one (or even both) of the two following courses : The first of these would be to place *Xiphosura* on the *List of Rejected Names*. This action has been requested in the application and I am strongly in favour of it. The other course would be to issue a ruling that after a species has been recorded on the *Official List of Generic Names in Zoology* as the type of a genus placed on that list it will thereby become automatically ineligible for designation as type of a generic name later placed on the list.

5. I am not a student of the group to which *Limulus* belongs, but this case is one that goes to the heart of all zoological nomenclature, and any student in any field of systematic zoology will feel the effect of the decision in this case. Therefore I am now requesting that the Commission take the latter course outlined above, and declare that *Limulus* can never be removed from the *Official List*, and that the species *Monoculus polyphemus* can never be legally designated as the type species of any other genus.

12. Appeal to specialists for advice issued in 1952 : In the autumn of 1951, Mr. Hemming, as Secretary, decided to publish a series of brief Reports on the stage reached in the various investigations which he had been invited to undertake by the Paris Congress of 1948 and to take advantage of the opportunity so presented of making a further appeal to interested specialists to furnish statements of their views as to the action which it was desirable should be taken in the present case (Hemming, 1952, *Bull. zool. Nomencl.* 7 : 196).

**Case 2 : Status of the generic name "Limulus" Müller (O.F.),
1785 (Class Merostomata)**

4. The problem to be considered here is whether action should be taken under the Plenary Powers to prevent the very well-known generic name *Limulus* Müller (O.F.), 1785 (Class Merostomata) from being replaced by the hitherto virtually unused name *Xiphosura* Brünnich, 1771, found to be an available name as the result of the decision that in his *Zoologiae Fundamenta* of 1771 (in which this name was published) Brünnich satisfied the requirements of Proviso (b) to Article 25. A subsidiary question involved in the foregoing problem arises from the fact that as long ago as 1928 the name *Limulus* Müller was placed on

the *Official List of Generic Names in Zoology*. A comprehensive statement of the issues involved in this case, with recommendations as to the action which it is desirable should be taken, has been submitted by Professor Leif Størmer (*Oslo*). This has now been published in the *Bulletin of Zoological Nomenclature* (1951, *Bull. zool. Nomencl.* 2 : 319—322); the proposals so submitted are supported by Professor Munro Fox (*London University*) (: 322) and Dr. Carl O. Dunbar (*Yale University*) (: 323).

13. Support received from Professor H. Engel (Zoologisch Museum, Amsterdam, The Netherlands) : On 12th April 1952, Professor H. Engel (*Zoologisch Museum, Amsterdam, The Netherlands*) addressed a letter to the Commission in regard to this and a number of other cases on which appeals for advice had then just been published in volume 7 of the *Bulletin of Zoological Nomenclature* (paragraph 12). The following extract relates to the present case :—“ In answer to your request in *Bull. zool. Nomencl.*, vol. 7, Part 7/8, it is my opinion, as regards Case 2 (Z.N.(S.) 506) (page 196), that *Limulus* should not be replaced by *Xiphosura*.”

III.—THE DECISION OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

14. Issue of Voting Paper V.P.(52)40 : On 9th May 1952 a Voting Paper (V.P.(52)40) was issued in which the Members of the Commission were invited to vote either for, or against, the proposal “ relating to the name *Limulus* Müller, 1785, as set out in Points (1) to (4) in paragraph 8 on page 322 of volume 2 of the *Bulletin of Zoological Nomenclature* ” [i.e. for the Points,

numbered as shown above, set in the concluding paragraph of the application by Professor Leif Størmer reproduced in paragraph 6 of the present *Opinion*].

15. The Prescribed Voting Period : As the foregoing Voting Paper was issued under the Three-Month Rule, the Prescribed Voting Period closed on 9th August 1952.

16. Communication received during the Voting Period from Dr. John H. Lochhead (Marine Biological Laboratory, Woods Hole, Massachusetts, U.S.A.) : On 30th July 1952—i.e. within ten days of the close of the Prescribed Voting Period—there was received a letter, with enclosure, dated 21st July 1952 in regard to the present case from Dr. John H. Lochhead (*Marine Biological Laboratory, Woods Hole, Massachusetts, U.S.A.*). The document so received was the following :—

Some additional facts that should be considered in regard to the proposals that the name “*Limulus*” Muller, 1785, (Class Merostomata) be retained on the “*Official List of Generic Names in Zoology*”, and that the alternative generic name “*Xiphosura*” be placed on the “*Official Index of Rejected and Invalid Generic Names in Zoology*”

By JOHN H. LOCHHEAD

(*Department of Zoology, University of Vermont, Burlington, Vermont, U.S.A., and Marine Biological Laboratory, Woods Hole, Mass., U.S.A.*)

1. Although the six-month period is now over, during which comments were invited on the *Limulus* versus *Xiphosura* controversy, I, like a great many other zoologists, have access to a large library but once a year. Thus it is only just recently that I have been able to see the published correspondence dealing with this dispute. Perhaps it is not too late for me to submit a few comments for consideration by the Commission.

2. First, I believe that the record should be set straight as to the extent that the generic name *Xiphosura* has come into use. Those who have written to Secretary Hemming on the case thus far either do not discuss this point, or imply that the name *Limulus* is now employed almost universally (Størmer, 1951, *Bull. zool. Nomencl.* 2 : 319—322 ; Fox, *ibid.* 2 : 322 ; Dunbar, *ibid.* 2 : 323 ; Richter, 1952, *ibid.* 6 : 221 ;

Baily, *ibid.* 6 : 221—222). Certainly it is true that a large majority of the published papers, chiefly physiological, use the name *Limulus*. But a number of papers, including especially the most recent authoritative reviews, have used the generic name *Xiphosura*. I append a list of some of these papers, and would call attention particularly to those of Gerhardt, in Kükenthal's *Handbuch*, Louis Page, in Grassé's *Traité de Zoologie*, and Petrunkevitch, in the *Encyclopaedia Britannica*. My own interest in the matter arose when I was asked to write the chapter on the animal in question in "*Selected Invertebrate Types*". I quickly found that, as just indicated, those who seemed most likely to know were agreed in using the generic name *Xiphosura*, following Pocock (1902). Not being a taxonomist, I was unaware of the Commission's actions in setting aside the names of Gronovius (*Opinion* 89) and in placing *Limulus* on the *Official List* (*Opinion* 104). Thus I added one more to the list of reviews employing the generic name *Xiphosura*. The situation at the present time is that anyone who turns to the literature for a reasonably detailed review of this animal, whether in English, French, or German, will find it referred to as *Xiphosura*.

3. My second point is in regard to early authors who have used the generic name *Xiphosura* prior to 1785, when Müller proposed the name *Limulus*. Only two such authors have been mentioned in the present correspondence to date, namely Gronovius (1764) and Brünnich (1771). I believe that two others should be added. Shortly after "*Selected Invertebrate Types*" was in the press, I discovered the presence of the name *Limulus* on the *Official List*. I wrote to Dr. Fenner A. Chace, Jr., of the U.S. National Museum in Washington, to enquire about the legality of a name placed in error on the *Official List* (a point which has been happily cleared up by the amendment to the *Règles* reported, 1950, in the *Bull. zool. Nomencl.* 4 : 268). In his very kind reply Dr. Chace mentioned that he had discovered a note in Miss Rathbun's handwriting to the effect that in addition to Gronovius and Brünnich, two other early authors had employed the generic name *Xiphosura*, namely Scopoli, 1777 (*Introduc. Hist. nat.* : 405) and Meuschen, 1778 (*Mus. Gronov.* : 83). I have not been able to consult either of these two books, but if Miss Rathbun's report is correct it should be taken into consideration when the Commission renders its *Opinion*. Meuschen's names have already been set aside by the Commission (see 1950, *Bull. zool. Nomencl.* 4 : 571—573), but Scopoli's names seem likely to be accepted, if we may judge from the conclusions reached independently by Baily (1951, *Bull. zool. Nomencl.* 6 : 68) and Hemming (*ibid.* 6 : 122—125).⁵

⁵ The application that Scopoli's *Introductio ad Historiam naturalem* of 1777 be accepted for nomenclatorial purposes has since been approved by the International Commission, and its decision has been embodied in *Opinion* 329 (in the press).

4. Despite the findings which I have reported above, I remain in full agreement with those who wish to see *Limulus* retained on the *Official List* and *Xiphosura* placed on the *Official Index of Rejected and Invalid Generic Names*. The latter action should be done in such a way as to cover *Xiphosura* Brünnich, 1771, *Xiphosura* Scopoli, 1777, *Xiphosura* Gronovius, 1764, and *Xiphosura* Meuschen, 1778. Legally it perhaps would not be necessary to make specific mention of the two latter authors, since the Commission already has rejected their works *in toto*. Nevertheless I believe that it would be desirable to mention all four authors, for the benefit of zoologists not familiar with previous actions of the Commission. Alternatively, if there are no legal objections, it might be possible to reject *Xiphosura* as used or proposed by any author in or prior to the year 1785 (the date when Müller proposed *Limulus*).

5. In regard to the retention of names on an *Official List*, I am not in agreement with Baily (1952, *Bull. zool. Nomencl.* 6 : 221—222) that a name once on that *List* should never be reconsidered. But I do feel that no names should be removed from an *Official List* for other than the most urgent reasons. In future years, after the *Lists* have been published and have gained reasonably wide circulation among zoologists, it should be considered progressively more difficult to remove a name the longer it has been on one of the *Lists*.

6. Those who have used the generic name *Xiphosura* in the recent past probably have done so either (like myself) in ignorance of the fact that *Limulus* had been placed on the *Official List*, or in the belief that because the Commission had acted in error its ruling was not legally binding. In this connection it may be noted that *Opinion* 104 gave none of the reasons that led to the placing of *Limulus* on the *Official List*, stating merely that the Secretary believed the name to be "nomenclatorially available and valid". When I first read this *Opinion* I was unaware that the Commission earlier had set aside the names of Gronovius. Thus I at once was in doubt as to the legal validity of the Commission's action in placing *Limulus* on the *Official List* "in harmony with the Rules".

7. In comparison with this record of confusion in the past, the future now looks much more hopeful. Full publication of the arguments involved in each case, the promised publication of *Official Lists* and of *Official Indexes of Rejected and Invalid Names*, both for genera and species, and the suggested publication of an *Official Index of Rejected and Invalid Books* (1952, *Bull. zool. Nomencl.* 7 : 164), all should go far towards securing a much greater uniformity and stability among zoologists in their use of taxonomic names. It is this hope for the future that has made it seem worth while to me to urge the

retention of *Limulus* on the *Official List* and the rejection of the generic name *Xiphosura*.

Some recent papers using the generic name "Xiphosura"

- Fage, L. 1949. Classe des merostomacés (Merostomata, Woodward (1866). Grassé's *Traité de Zoologie* 6 : 219—262.
- Gerhardt, U. 1932 and 1935. Erste Klasse der Chelicerata, Merostoma. *Kükenthal u. Krumbach's Handbuch der Zool.* 3 (H. 2, Lief. 3) : 10—32, and 3 (H. 2, Lief. 8) : 33—96.
- Gravier, C. 1929. L'appendice caudal des limules. *Bull. Mus. nat. Hist. nat. Paris* (2) 1 : 94—99.
- Gravier, C. 1929. Révision de la collection des limules du Muséum national d'Histoire naturelle. *Bull. Mus. nat. Hist. nat. Paris* (2) 1 : 313—331.
- Gravier, C. 1929. Les appendices fousseurs des limules. *Arch. Anat. micr.* 25 : 270—279.
- Lafon, M. 1943. Sur la structure et la composition chimique du tégument de la limule (*Xiphosura polyphemus* L.). *Bull. Inst. océanogr. Monaco*, 40 (850) : 1—11.
- Lochhead, J. H. 1950. Arthropoda. *Xiphosura polyphemus. Selected Invertebrate Types* (Ed. F. A. Brown, Jr.) : 360—381, 584—585. Wiley, New York.
- Petrunkévitch, A. 1947. *Xiphosura. Encyclopaedia Britannica* : App.
- Vachon, M. 1945—6. Remarques sur les appendices du prosoma des limules et leur arthrogenèse. *Arch. Zool. exp. gén.* 84 : 271—300.

17. Action taken on the supplementary point raised by Dr. John H. Lochhead : On receipt of the communication from Dr. John H. Lochhead reproduced in the immediately preceding paragraph, Mr. Hemming, as Secretary, placed (on 31st July 1952) the following Minute in File Z.N.(S.) 506 :—

"Limulus" and "Xiphosura" : an additional point brought out in the statement furnished by Dr. John H. Lochhead

By FRANCIS HEMMING,

Secretary to the International Commission on Zoological Nomenclature

In the statement enclosed with his letter of 21st July 1952, Dr. John H. Lochhead has drawn attention to the fact that, in addition

to the use of the generic name *Xiphosura* (1) by Brünnich, 1771, which Professor Leif Størmer has recommended should now be suppressed by the Commission under its Plenary Powers and (2) by Gronovius in 1764 in the *Zoophylacium Gronovianum* (a name which is invalid by reason of having been published in a non-binominal work), there are two other uses of the name *Xiphosura* prior to the publication of the name *Limulus* Müller (O.F.), 1785. These are:—(a) *Xiphosura* Scopoli, 1777, and *Xiphosura* Meuschen, 1778. Dr. Lochhead suggests that these names also should now be finally disposed of.

2. The proposal now before the Commission is that the name *Xiphosura* Brünnich, 1771, should be suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy. Accordingly, under this proposal the two names mentioned by Dr. Lochhead will remain invalid names as being junior homonyms of *Xiphosura* Brünnich, 1771. Apart from this, the name *Xiphosura* Meuschen, 1778, is invalid for another reason, as the work in which this name was published—the *Museum Gronovianum*—has been declared by the Commission to be a work which is not available for zoological nomenclature (1950, *Bull. zool. Nomencl.* 4 : 571—573⁶).

3. In these circumstances the only action which is required in this matter is that the names *Xiphosura* Scopoli, 1777, and *Xiphosura* Meuschen, 1778, should now be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. Under the Rules laid down in Paris (a) that in future the Ruling in every *Opinion* shall cover the whole of the subject matter of the application concerned and (b) that all invalid names involved in any case submitted to the Commission shall be placed on the appropriate *Official Index*, the two names referred to above fall now to be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. It is hereby directed that entries to this effect be included in the Ruling to be given in the present case when, as the votes already cast clearly show will happen, the Commission approves the application submitted by Professor Størmer.

4. In addition, as Secretary, I take this opportunity to direct that the Invalid Original Spelling *Xiphisura* Brünnich, 1771 (*Zool. Fund.* : 184), to which attention was drawn by Mr. Winckworth in his original communication regarding Brünnich's *Fundamenta* (Winckworth, 1945, *Bull. zool. Nomencl.* 1 : 116) be placed on the *Official Index* at the same time as the names referred to in paragraph 3 above.

⁶ The decision here referred to has since been embodied in *Opinion* 260 (1954, *Ops. Decls. int. Comm. zool. Nomencl.* 5 : 265—280).

18. Particulars of the Voting on Voting Paper V.P.(52)40 :
The state of the voting on Voting Paper V.P.(52)40 at the close of the Prescribed Voting Period was as follows :—

(a) *Affirmative Votes had been given by the following seventeen (17) Commissioners (arranged in the order in which Votes were received):*

Hering ; Riley ; Dymond ; Calman ; Hankó ; Bonnet ;
Vokes ; do Amaral ; Pearson ; Hemming ; Bradley ;
Esaki ; Lemche ; Mertens ; Stoll ; Cabrera ; Boschma ;

(b) *Negative Votes:*

None ;

(c) *Voting Paper not returned, one (1) :*

Jaczewski.

19. Declaration of Result of Vote : On 11th August 1952, Mr. Hemming, Secretary to the International Commission, acting as Returning Officer for the Vote taken on Voting Paper V.P.(52)40, signed a Certificate that the Votes cast were as set out in paragraph 18 above and declaring that the proposal submitted in the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

20. On 23rd April 1954, Mr. Hemming prepared the Ruling given in the present *Opinion* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those of the proposal approved by the International Commission

in its Vote on Voting Paper V.P.(52)40, and the points supplementary thereto specified in the Minute executed by the Secretary on 31st July 1952 (reproduced paragraph 17 of the present *Opinion*).

21. The following are the original references for the names on *Official Lists* and *Official Indexes* in the Ruling given in the present *Opinion*:—

- polyphemus*, *Monoculus*, Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 634
Xiphisura Brünnich, 1771, *Zool. Fund.* : 184
Xiphosura Gronovius, 1764, *Zoophylac. gronov.* **2** : 220
Xiphosura Brünnich, 1771, *Zool. Fund.* : 208
Xiphosura Scopoli, 1777, *Introd. Hist. nat.* : 405
Xiphosura Meuschen, 1778, *Mus. gronov.* : 83

22. The application dealt with in the present *Opinion* was published in the *Bulletin of Zoological Nomenclature* prior to the establishment of the *Official List of Family-Group Names in Zoology* by the Fourteenth International Congress of Zoology, Copenhagen, 1953. It has not been possible since then to deal with this aspect of the present case. This question is, however, now being examined on a separate File to which the Registered Number Z.N.(G.) 75 has been allotted.

23. At the time of the adoption of the Ruling given in the present *Opinion*, the expression prescribed for the second portion of the binomen which constitutes the scientific name of a species was the expression "trivial name" and the *Official List* reserved for recording such names was styled the *Official List of Specific Trivial Names in Zoology*, the word "trivial" appearing also in the title of the *Official Index* reserved for recording rejected and invalid names of this category. Under a decision taken by the Fourteenth International Congress of Zoology, Copenhagen, 1953, the expression "specific name" was substituted for the expression "trivial name" and corresponding changes were made in the titles of the *Official List* and *Official Index* of such names (1953, *Copenhagen Decisions zool. Nomencl.* : 21). The changes in terminology so adopted have been incorporated in the Ruling given in the present *Opinion*.

24. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

25. The present *Opinion* shall be known as *Opinion* Three Hundred and Twenty (320) of the International Commission on Zoological Nomenclature.

DONE in London, this Twenty-Third day of April, Nineteen Hundred and Fifty-Four.

*Secretary to the International Commission
on Zoological Nomenclature*

FRANCIS HEMMING

